

Washington University Law Review

Volume 77

Issue 2 *The Modernization of Financial Services Legislation*

January 1999

Promoting the Progress of Science and America's Small Entity Inventors: Inventing an Improved U.S. Patent Application Publication Provision out of the Prior Art

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Recommended Citation

Len S. Smith, *Promoting the Progress of Science and America's Small Entity Inventors: Inventing an Improved U.S. Patent Application Publication Provision out of the Prior Art*, 77 WASH. U. L. Q. 585 (1999). Available at: https://openscholarship.wustl.edu/law_lawreview/vol77/iss2/12

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PROMOTING THE PROGRESS OF SCIENCE AND AMERICA'S SMALL ENTITY INVENTORS: INVENTING AN IMPROVED U.S. PATENT APPLICATION PUBLICATION PROVISION OUT OF THE PRIOR ART

A patent by its very nature is affected with a public interest—
Justice Frank Murphy.¹

I. INTRODUCTION

DreamGene, a fledgling biotechnology corporation, dedicated all of its initial resources to developing a gene therapy for XYZ disease. After years of intensive research, DreamGene's scientists isolated an effective gene therapy. To protect its invention, DreamGene asked its attorney to apply for a patent with the United States Patent and Trademark Office ("PTO").

Under one of the recently proposed patent application publication bills² the PTO will publish DreamGene's application before it issues as a patent.³

1. Precision Instrument Mfg. Co. v. Automotive Maintenance Mach. Co., 324 U.S. 806, 816 (1945). This statement has subsequently been incorporated in the U.S. Patent and Trademark Office's rule regarding inequitable conduct. See 37 C.F.R. § 1.56 (1998).

2. See S. 507, 105th Cong. § 202 (1997) (the "Omnibus Patent Act"); H.R. 400, 105th Cong. § 202 (1996) (the "21st Century Patent System Improvement Act"). Actually neither bill would publish patents literally, but rather give notice that they would then be available for public inspection. See S. REP. NO. 105-42, at 54, 94 (1997); see also *infra* note 32 and accompanying text (describing the PTO's practice of making issued patents available). Nevertheless, patents recently have become widely available on the internet at no cost by the PTO itself, and through other services, such as, IBM's "patent server." See U.S. Patent & Trademark Office, *Search U.S. Patent Databases* (last modified May 24, 1999) <<http://www.uspto.gov/web/menu/pats.html>>; IBM, *Intellectual Property Network* (visited June 4, 1999) <<http://www.patents.ibm.com>>. It is possible that applications may also become widely distributed in such a fashion under a pregrant patent publication law.

As this Note was in the final stages of publication, Representative Howard Coble introduced similar legislation in the 106th Congress. See H.R. 1907, 106th Cong. § 402 (1999).

3. House Bill 400, for example, provides that "applications for patents, except applications for design patents filed under Chapter 16 of this title and provisional applications filed under Section 111(b) of this title, shall be published, in accordance with procedures determined by the Director, promptly after the expiration of a period of 18 months from the earliest filing date for which a benefit is sought." H.R. 400 § 202(b)(1)(A); see also S. 507 § 202 (similar provision). The term "Director" is used instead of the traditional "Commissioner" (in referring to the PTO) because the bills also sought to provide for creation of a Director of Intellectual Property Position. See H.R. 400 § 113; S. 507 § 113. Patents are generally divided into design patents, which are completely exempted from the bills' publication provisions, and plant patents and "utility" (that is, all other) patents, which are not exempted. See Paul Gibbons, Note, *The Application Publication Dilemma: Should the United States Publish Patent Applications Eighteen Months After Filing to Accommodate International Patent Harmonization?* 20 SUFFOLK TRANSNAT'L L. REV. 449, 453 (1997); see also 35 U.S.C. §§ 171, 161

As a result, other biotechnology and chemical companies can access DreamGene's patent application. Consequently, these companies could use the ideas expressed in DreamGene's application to begin mass production of a very similar, though not "substantially identical,"⁴ copy of DreamGene's invention before DreamGene's patent issues. Thus, by the time DreamGene receives its patent, the market is already flooded with its competitors' similar gene therapies. DreamGene is out of business before it even starts production.

The DreamGene hypothetical describes what many independent inventors, small businesses, and members of Congress fear will result from a pregrant patent publication provision,⁵ such as those proposed in the 105th Congress. In recent years, similar fears have sparked a heated debate about the merits of the United States adopting a pregrant patent publication system.⁶ A new aspect of this debate concerns whether pregrant patent publication should be limited by providing exemptions from such publication provisions,⁷ and, if so, to what extent.⁸ Another question that has arisen from

(1994) (describing substantive requirements for design and plant patents, respectively). The allowable types of subject matter for "utility patents" are set out under 35 U.S.C. § 101.

4. Both House Bill 400 and Senate Bill 507 proposed "provisional rights" for inventions in published applications, that is, rights that exist during the period of publication of the application and end on the date the patent is issued. *See* H.R. 400 § 204; S. 507 § 204. These rights would allow the owner of an application to sue for infringement of the disclosed invention, but only to obtain "a reasonable royalty," on the infringement of an "invention as claimed in the published patent application" if the invention is "substantially identical to the invention as claimed in the published patent application." H.R. 400 § 204(2)(d); S. 507 § 204(2)(d). The "substantially identical" standard is based on analogy to case law for the establishment of intervening rights in reissue patents under the Patent Act. *See* H.R. REP. NO. 105-39, at 62 (1997) (citing *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 810 F.2d 1113 (Fed. Cir. 1987)). More specifically, this substantially identical standard is based on judicial rejection of the unqualified "identical" language in the current wording of 35 U.S.C. § 252.

5. The term "pregrant patent publication" refers to publication of patent applications before the patent "issues." *See* 35 U.S.C. § 151 (1994).

6. The proposed patent reforms in House Bill 400 and Senate Bill 507 attempted to provide "the most comprehensive reform of the U.S. Patent System in over 45 years." S. REP. NO. 105-42, at 41. Other provisions in the bills are also considered controversial, including creating the PTO as an independent government corporation, removing gift restrictions from PTO employees, providing prior user rights, modifying patent reexamination procedures, and implementing patent term modifications. *See id.* at 38-41; *see also* H.R. 400 §§ 111-122, 142-144, 208, 301-303. *See generally* Jeffery E. Robertson, *If It Ain't Broke Don't Fix It: The Unnecessary Scope of Patent Reform as Embodied in the "21st Century Patent System Improvement Act" and the "Omnibus Patent Act of 1997,"* 5 J. INTELL. PROP. L. 573 (1998). The publication provision, however, has been acknowledged as "one of the most discussed proposals," S. REP. 105-42, at 39, and more often the most "controversial." *See* Kelly L. Morron, *Patent Bills Provoke Strong Responses*, N.Y.L.J., Mar. 8, 1998, at 57; *see also infra* note 10.

7. *See, e.g.*, 143 CONG. REC. H1629-45, H1643-01 (daily ed. Apr. 17, 1997) (floor debate on House Bill 400); 143 CONG. REC. H1719-39 (daily ed. Apr. 23, 1997); Howard Coble, *Patent-Improvement Bill Stirring a Lively Debate and Is Vitaly Important*, NEWS & RECORD, May 18, 1997, at F3.

8. *See, e.g.*, John F. Duffy et al., *Early Patent Publication: A Boon or a Bane? A Discussion on*

the bills proposed in the 105th Congress is what protections should applicants be given for their ideas once an application is made public.⁹

Pregrant patent publication is a radical departure from present United States patent law.¹⁰ Under the current Patent Act,¹¹ the PTO maintains applications in confidence before they issue as patents or are abandoned.¹²

the Legal and Economic Effects of Publishing Patent Applications After Eighteen Months of Filing, 16 CARDOZO ARTS & ENT. L.J. 601, 604 (1998) (noting debate on whether the small entity exception in House Bill 400 is a principled one).

9. *See infra* note 139 (noting debate over whether provisional remedies contained in such bills offer sufficient protection).

10. Pregrant publication of U.S. patent applications is the most controversial part of what will become the largest change to the U.S. patent system in 45 years if the proposed bills are enacted into law. *See supra* note 6; *see also* Robertson, *supra* note 6, at 579. The change is even more notable considering the U.S. patent system has gone through only four major changes in the entire history of this country. *See* ARTHUR R. MILLER & MICHAEL H. DAVIS, *INTELLECTUAL PROPERTY: PATENTS, TRADEMARKS AND COPYRIGHTS IN A NUTSHELL* 8 (1990).

11. The "Patent Act" as used herein refers to Title 35 U.S.C. (1994 & Supp. III 1997).

12. Currently, confidentiality of patent applications is governed by section 122, which provides: Applications for patents shall be kept in confidence by the Patent and Trademark Office and no information concerning the same given without authority of the applicant or owner unless necessary to carry out the provision of any Act of Congress or in such special circumstances as may be determined by the Commissioner.

35 U.S.C. § 122 (1994 & Supp. III 1997). The PTO provides its own rule of confidentiality for applications:

Patent applications preserved in confidence. (a) Patent applications are generally preserved in confidence pursuant to 35 U.S.C. § 122. No information will be given concerning the filing, pendency, or subject matter of any application for patent, and no access will be given to, or copies furnished of, any application or papers relating thereto except for set forth in this section.

37 C.F.R. § 1.14(a) (1998) (also commonly called "PTO Rule 14"). Rule 14 allows status information on applications (for example, whether they are pending or abandoned) to be provided under limited circumstances. *See id.* § 1.14(a)(1). Access is allowed to applications if they are referenced in a U.S. patent. *See id.* § 1.14(a)(2). Rule 14 also allows access without notice to the applicant when "(i) It has been determined by the Commissioner to be necessary for the proper conduct of business before the Office or warranted by other special circumstances." *Id.* § 1.14(a)(3)(i); *see also In re Yang*, 177 U.S.P.Q. 88, 89 (Patent Office Solicitor 1973); *In re Hoffman*, 129 U.S.P.Q. 185 (Comm'r Patents 1961) (public policy dictates that public may access abandoned applications relied on for prosecution of patented subject matter). Decisions of the Board of Patent Appeals and Interferences (an administrative review board within the PTO) may also lead to publication at the Commissioner's discretion. *See* 37 C.F.R. § 1.14(d). Despite the number of situations set out in Rule 14 for access to pending applications, exceptions under section 122 are generally construed narrowly, and the Commissioner may not make judicial exceptions to section 122 without good cause. *See Lee Pharm. v. Kreps*, 577 F.2d 610, 616 (9th Cir. 1978) (holding that Commissioner may not make disclosure prohibited under section 122 "whenever he feels like it" but rather may only do so under "extremely narrow" circumstances). *Cf. Irons & Sears v. Dann*, 606 F.2d 1215, 1221-22 (D.C. Cir. 1979) (holding that Freedom of Information Act does not compel discovery of pending applications). Criminal penalties are imposed on PTO employees for violations of section 122. *See* 18 U.S.C. § 2071 (1994); DONALD S. CHISUM, *CHISUM ON PATENTS, A TREATISE ON THE LAW OF PATENTABILITY, VALIDITY, AND INFRINGEMENT* § 11.02[4] (1997) (discussing application confidentiality); CHARLES L. GHOLZ ET AL., *PATENT PRACTICE* 19-22 to 19-27 (4th ed. 1989) (same); *see also* UNITED STATES PATENT & TRADEMARK OFFICE, *MANUAL OF PATENT EXAMINING PROCEDURE* § 101 (7th ed. 1997) (describing PTO's application of section 122 and Rule 14).

Nevertheless, there are many reasons to believe pregrant patent publication will be one aspect of an upcoming revision to American patent law.¹³

Although patent law has been rarely, if ever, considered a politically volatile issue,¹⁴ the question of whether the United States should publish patent applications has created tremendous public controversy.¹⁵ Specifically, the issue of pregrant patent publication has created a furor among two competing interest groups. The first group, composed of large multinational corporations and America's foreign trading partners, supports pregrant publication because it allows for better harmonization between American and foreign patent systems and disseminates information faster.¹⁶ In contrast, the second group, mostly independent inventors and small businesses, opposes pregrant publication because it would eliminate the counterbalance the current system provides them against the power of the multinational

13. The conclusion that pregrant publication is a likely change to U.S. law might be derived by examining the large amount of legislation in the last five years that has proposed pregrant publication. See S. 1961, 104th Cong. (1996); H.R. 3460, 104th Cong. (1996); H.R. 1733, 104th Cong. (1995); S. 2488, 104th Cong. (1994); S. 1854, 103rd Cong. (1994); see also S. REP. 105-42, at 32-33 (detailing legislative history of Senate Bill 507). Furthermore, the United States is still obligated to make this change under its agreement with Japan. See *infra* notes 42-44 and accompanying text. Others cite the recent changes made in complying with the Trade-Related Aspects of Intellectual Property component of the Uruguay Round of General Agreement on Trade and Tariffs ("GATT-TRIPS") as merely a beginning of further U.S. harmonization, including pregrant publication. See ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGY AGE* 193 (1997). Additionally, the fact that such changes have been proposed since the 1960s also shows the longevity of these proposals. See *infra* note 43. Finally, the United States is one of the only countries in the world without a pregrant publication provision. See *infra* note 39. Exemptions, such as those proposed by House Bill 400, Senate Bill 507, and this Note, are also likely. See *infra* note 90.

14. See MILLER & DAVIS, *supra* note 10, at 8; see also Robertson, *supra* note 6, at 598 (quoting Representative Coble as stating "[f]or most people the words 'patent bill' are sufficient to induce sleep"); Victor G. Savikas & Marsha E. Durko, *Bills To Make PTO Government Corporation Stall*, NAT'L L.J., May 18, 1998, at C38 (stating that business of PTO was of no immediate concern to most companies for decades).

15. See, e.g., Stephen Barlas, *Under Wraps*, ENTREPRENEUR MAG., Aug. 1, 1997, at __; Coble, *supra* note 7; Gibbons, *supra* note 3, at 449; Lisa Seachrist, *Patent Reform Ignites Contentious Debate in Senate*, BIOWORLD TODAY, May 8, 1997; see also *infra* notes 16-17 and accompanying text. One possible reason for the increased interest in the new patent bills is the increased value that patents have had in recent years. See MERGES ET AL., *supra* note 13, at 294-95 (citing disinterest with patent law harmonization until perceived increase in intellectual property values in 1980s); Savikas & Durko, *supra* note 14, at C38.

16. See *Differences in National Patent Laws Breed Discord and Confusion*, JANE'S DEFENSE CONTRACTS, Sept. 1, 1997, at 9; Skip Kaltenheuser, *Stacking the Deck Against the New*, VENTURE CAP. J., Dec. 1, 1997; Reed Karim, *An Oddball Alliance That May Thwart Corporate America*, FORTUNE, Feb. 2, 1998, at 40; Reed Karim, *Patently Wrong: A Bill Pushed by Big Business Imperils America's Culture of Invention*, WASHINGTON POST, Dec. 28, 1997, at C1; Andrew Wise, *Patent Measure Would Enhance U.S. Competitiveness, Legislation Protects Inventors by Providing for 'Early Publication' of Patent Applications*, DALLAS BUS. J., Dec. 26, 1997, at 19; see also *infra* notes 53-67 and accompanying text.

corporations.¹⁷

Pregrant patent publication legislation stalled in the 105th Congress, in large part due to small entity opposition. But Congress came closer than ever before to passing legislation that would have established a limited pregrant publication system.¹⁸ Specifically, the pregrant publication exclusions of the proposed 21st Century Patent System Improvement Act¹⁹ and the proposed Omnibus Patent Act of 1997,²⁰ introduced in the 105th Congress, attempted to compromise the conflicting interests of small entities and multinational corporations through markedly different strategies. A Model Pregrant Patent Publication Provision should balance the interests of both small entities and large corporations while supporting the constitutional policy of promoting invention through the patent system.

This Note critically examines the issues of (1) who should be excluded from any upcoming pregrant patent publication legislation and why, (2) what the scope of such exclusions should be, and (3) what other protections, if any, should be provided to patent applicants after pregrant publication. Part II discusses the history of the patent application process and prior attempts to create pregrant publication in the United States. Part III analyzes both sides of the pregrant patent publication debate. Part IV analyzes the most recent legislative attempts to provide solutions to the conflict by examining the proposed limited pregrant publication legislation in the 105th Congress. Finally, Part V proposes a Model Pregrant Publication Provision that combines the best elements of the most recent legislation, addresses weaknesses in the legislation, and proposes new solutions to address the concerns of both sides in the pregrant publication debate.

II. HISTORY

The U.S. patent system is based upon the constitutional grant that Congress may enact laws to “promote the progress of science and the useful

17. See Charlotte Felt, *Bad Legislation in Congress Involving Patents*, NEW ORLEANS TIMES-PICAYUNE, May 27, 1997, at B6; Rick Montgomery, *Patent Fight Pits Business vs. Little Guy, Proposed Overhaul Could Hurt U.S. Flair of Genius, Some Say*, KAN. CITY STAR, March 30, 1998; Jube Shiver, Jr., *An Unlikely Group Fights Patent Reform Legislation: Bills to Overhaul the Centuries-Old System Bring Together Small Inventors, Perot and Others to Take on Big Business*, L.A. TIMES, Dec. 8, 1997, at D2; see also *infra* notes 68-84 and accompanying text.

18. Senate Bill 507 was reported out of the Senate Judiciary Committee, and House Bill 400 was passed by the entire House of Representatives, going further toward enactment than any similar pregrant patent publication bill. See *infra* note 52; see also S. REP. 105-42, at 32-33 (detailing former bills and how successful they were in Congress).

19. H.R. 400, 105th Cong. (1997).

20. S. 507, 105th Cong. (1996).

arts” by providing inventors limited exclusive rights to their inventions and discoveries.²¹ Thus, patent legislation is required to uphold this constitutional goal.²² This policy evolved into a balance between the public’s benefit, derived from the disclosure of inventions through published patents, and inventors’ incentives to disclose their inventions by providing adequate protection for inventions through the Patent Act.²³

For over 200 years, the United States patent application process has protected the confidentiality of an applicant’s invention during examination.²⁴ Though this policy evolved through PTO office rules, it was enacted in the 1952 Patent Act under Section 122.²⁵ The rationale behind the policy to maintain secrecy during patent prosecution is that the application process should not deprive inventors of their common-law trade secret

21. See U.S. CONST. art. 1, sec. 8, cl. 8 (generally known as the “Intellectual Property Clause”). The Intellectual Property Clause states that “Congress shall have Power . . . to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” *Id.* In general, patents promote the progress of science and the useful arts through a reward to inventors of a “limited monopoly” or, more appropriately, a “public franchise” in their invention in exchange for public disclosure of their ideas. See generally MILLER & DAVIS, *supra* note 10, at 1-18. The Supreme Court has noted this policy, stating:

letters patent are not to be regarded as monopolies . . . but as public franchises granted to the inventors of new and useful improvements . . . as a matter of compensation to the inventors for their labor, toil, and expertise in making the inventions . . . as contemplated by the Constitution and sanctioned by the laws of Congress.

Seymour v. Osborne, 78 U.S. (11 Wall.) 516, 533-34 (1870); see also *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (noting that policy of patent system is to reward invention).

22. See *Graham v. John Deere Co.*, 383 U.S. 1, 5, 7 (citing *McClurg v. Kingsland*, 42 U.S. (1 How.) 202 (1843)) (holding Congress may implement patent policy only within the stated purpose of the Constitution); see also Duffy et al., *supra* note 8, at 603 (noting the importance of analyzing pregrant publication problem from this constitutional policy perspective).

23. See *Brenner v. Manson*, 382 U.S. 519, 534-35 (1966) (stating that basic *quid pro quo* contemplated by Constitution for granting a patent is benefit derived by public of getting disclosure of an invention with substantial utility); see also *Kewanee*, 416 U.S. at 480-81, 484 (discussing balance of disclosure and protection for patents).

24. Although patent application confidentiality provisions were not officially enacted into the Patent Act until the adoption of section 122 in 1952, see *supra* note 12, the section codified what had been long-standing Patent Office practice. See *Sears v. Gottschalk*, 502 F.2d 122, 129 (4th Cir. 1974). The enactment of section 122 was part of the overall revision and reenactment of the patent laws in 1952. See *id.* Both the House and Senate reports state:

Section 122 incorporates into the title the rule of secrecy of patent applications which has existed in the Patent Office for generations. [Furthermore,] while the regulations of the Patent Office have spoken of pending and abandoned applications on a parity as to secrecy only since 1952, for ninety years prior thereto, and hence for the “generations” referred to in the legislative history of § 122, the practice of the Patent Office has been to treat them alike.

Id. (quoting H.R. REP. NO. 1923, at 7 (1952)); see also S. REP. NO. 1979, at 6 (1952), reprinted in 1952 U.S.C.C.A.N. 2400. Actually, written patent rules providing for secrecy of patent applications have existed since 1854, and revised rules providing for secrecy were enacted in 1879, 1897, and 1916. See *Sears*, 502 F.2d at 130 n.18.

25. See *supra* notes 12, 24.

rights.²⁶

The patent process begins when an inventor files an application with the PTO. The PTO then examines the application for subject matter, novelty, utility, nonobviousness,²⁷ as well as whether the disclosure enables others to make the invention.²⁸ The examination process occurs through a series of informal administrative correspondences from the PTO to the applicant called “office actions.”²⁹ An applicant may respond to an office action through arguments, amendments to the application, appeals, or petitions to the PTO.³⁰ When, and if, the application meets the requirements of patentability, the PTO approves the application and issues a patent to the inventor.³¹ The PTO then makes the invention publicly available through

26. See PETER D. ROSENBERG, *PATENT LAW FUNDAMENTALS* 17-18 (1975). An inventor is “promised that merely by soliciting, before the Patent Office, [his then secret invention] he is not giving up his common-law rights. Though the Patent Office may refuse to issue a patent, it must do nothing to jeopardize even an unsuccessful applicant’s common-law rights.” *Id.*; see also CHISUM, *supra* note 12, § 11.02[4] (citing *Irons & Sears v. Dann*, 606 F.2d 1215, 1221 (D.C. Cir. 1979)) (noting that purpose of section 122 is to avoid deterring potential patent applicants).

27. 35 U.S.C. §§ 101-103 provide that requirements of subject matter, novelty, utility, and nonobviousness must be met before a patent may issue on an invention. See also *id.* § 131 (providing for examination and rejection of applications under supervision of Commissioner); *id.* § 133 (providing for notice of rejection and reexamination of applications).

28. See *id.* § 122.

29. See Al Lawrence Smith, *Patent Examination in the U.S. Patent and Trademark Office*, ALI-ABA, May 5, 1994, at 27, 30. It is very rare that a patent will issue on an application submitted. See HAROLD C. WEGNER, *COMPARATIVE PATENT LAW* 283 (1991); see also *infra* note 32 (discussing numbers of responses filed by applicants).

30. See generally MERGES ET AL., *supra* note 13, at 132-33; Jeffery G. Sheldon, *How to Obtain a Patent*, in *HOW TO HANDLE BASIC PATENT PROBLEMS* 127 (PLI Patents, Copyrights, Trademarks, and Literary Property Course Handbook Series No. 64-3888, 1992); Smith, *supra* note 29. The entire process of filing the application and attempting to modify it or defend its patentability is called “prosecution” of the patent. See MERGES ET AL., *supra* note 13, at 132.

31. See 35 U.S.C. § 151; see also *id.* § 11 (giving Commissioner right to publish patents). The time period from application to issuance of a patent is referred to as its “pendency.” See U.S. GEN. ACCOUNTING OFFICE, REP. NO. 96-230, *INTELLECTUAL PROPERTY—PATENT EXAMINATION AND COPYRIGHT OFFICE ISSUES* 1 (1996) [hereinafter GAO REPORT III]. Pendency is a critical issue when analyzing pregrant publication because most proposed pregrant publication schemes set a mandatory 18-month period for publication of applications. See, e.g., S. 507 § 202(b)(1)(A); H.R. 400 § 202(b)(1)(A). Average pendency estimates vary greatly for different types of patent applications. The average pendency of a patent application reported by the PTO is almost 21 months. See U.S. PATENT & TRADEMARK OFFICE, *MANAGING CHANGE FOR GLOBAL CHALLENGES: FISCAL YEAR 1996, PATENT AND TRADEMARK OFFICE REVIEW* 100 (1996). Cf. Mark A. Lemley, *An Empirical Study of the 20 Year Patent Term*, 22 *AIPLA Q.J.* 369, 385 (1995) (citing 864 days, approximately 28.8 months as mean time in prosecution). The GAO performed independent assessments of the pendency of applications and the PTO’s reports on pendency matters and reached different conclusions than the PTO. The GAO suggested that the PTO’s techniques for determining pendency were questionable. See U.S. GEN. ACCOUNTING OFFICE, REP. NO. 96-190, *INTELLECTUAL PROPERTY—ENHANCEMENTS NEEDED IN COMPUTING AND REPORTING EXAMINATION STATISTICS* 4-10 (1996); GAO REPORT III, *supra*, at 2-3; see also U.S. GEN. ACCOUNTING OFFICE, REP. NO. 97-58, *INTELLECTUAL PROPERTY—COMPARISON OF PATENT EXAMINATION STATISTICS FOR FISCAL YEARS 1994 & 1995* (1997).

publication of the patent.³² In exchange for public disclosure of the inventor's ideas, the inventor receives the exclusive right to make, use, and sell the invention³³ for twenty years from the date of filing.³⁴ The public receives the benefits of the invention and the ideas therein.³⁵

Since the United States developed a patent system, almost every other industrial country in the world has developed its own system for providing patents or similar rights.³⁶ Historically, application procedures in these nations protected the privacy of inventions during pendency.³⁷ But beginning in the 1960s, the majority of the world's patent systems switched from a

[hereinafter GAO REPORT II].

32. See 35 U.S.C. § 153 (providing for recording of patents in the Patent and Trademark Office, which places them within the public domain); see also 37 C.F.R. § 1.11 (1998) (providing that "[a]fter a patent has been issued . . . the specification, drawings, and all papers relating to the case in the file of the patent . . . are open to inspection by the public, and copies may be obtained upon paying the fee therefor").

33. Every patent shall contain a "grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States." 35 U.S.C. § 154(a)(1); see also 35 U.S.C. § 271 (defining infringement of patents as the unauthorized use, sale, offer to sell, within the United States, or importing into the United States "any patented invention"). 35 U.S.C. §§ 281, 283-285 provides civil remedies to patentees for violation of these rights.

34. See 35 U.S.C. § 154. Section 154(a)(2) defines the general term for patents as "20 years from the date on which the application was filed." This is modified, however, by 35 U.S.C. § 155, § 155A, and § 156, which provide for term extensions or restorations under certain conditions.

35. The disclosure of patents is the way the Patent Act fulfills the policy of the Intellectual Property Clause. See, e.g., *Grant v. Raymond*, 31 U.S. (6 Pet.) 218, 241 (1832).

[I]t cannot be doubted that the settled purpose of the United States has ever been, and continues to be, to confer on the authors of useful inventions an exclusive right in their inventions for the time mentioned in their patent. It is the reward stipulated for the advantages derived by the public from the exertions of the individual and is intended as a stimulus to those exertions.

Id.; see also *supra* note 24.

36. The United States was one of the first countries to offer a modern patent system. See MILLER & DAVIS, *supra* note 10, at 8-9; see also ROBERT P. MERGES, *PATENT LAW AND POLICY: CASES AND MATERIALS* 1-10 (1992). Earlier systems extend from the Ancient Greeks, to Venice, to the first statutory provisions in England, but the United States developed a modern patent office system that has been followed by other nations. See *id.* See generally Howard I. Forman, *Two Hundred Years of American Patent Law*, in 200 YEARS OF ENGLISH & AMERICAN PATENT, TRADEMARK & COPYRIGHT LAW (1977) (discussing development of U.S. patent system). Although many countries developed systems similar to the United States involving both a "formal" examination of the patent application as well as a "substantive" examination into the "unity of invention" (or separateness) as well as other qualities similar to "nonobviousness" or "utility," other countries influenced by early French patent systems have relied on only a formal examination. See 1 STEPHEN P. LADAS, *PATENTS, TRADEMARKS AND RELATED RIGHTS: NATIONAL AND INTERNATIONAL PROTECTION* 344-45 (1975). The majority of patent systems, including that of the United States, have largely rejected this approach for more substantive examination of applications. See *id.*

37. See Paul A. Ragusa, Note, *Eighteen Months to Publication: Should the United States Join Europe and Japan by Promptly Publishing Patent Applications?*, 26 GEO. WASH. J. INT'L L. & ECON. 143, 143-44 (1992) (citing WEGNER, *supra* note 29, at 386-87) (discussing historical secrecy of patent applications in other countries).

confidential application system to automatic pregrant publication systems.³⁸ Today, almost all countries except the United States require pregrant publication of patent applications.³⁹

International trade agreements have placed both domestic and international pressure on the United States to conform its patent process to the international norm, or “harmonize” the U.S. system.⁴⁰ The United States and Japan entered an important set of agreements regarding intellectual property in 1994.⁴¹ In one key aspect of this agreement, the United States conceded to Japan’s demand that the United States publish patent applications eighteen months after filing.⁴² In response to this agreement, and other international and domestic pressure, several bills were unsuccessfully

38. See Duffy et al., *supra* note 8, at 602; see also DONALD S. CHISUM & MICHAEL A. JACOBS, WORLD INTELLECTUAL PROPERTY GUIDEBOOK: UNITED STATES §2D[1][c] (1992) (discussing the Japanese and European practice of publishing applications 18 months after filing); Ragusa, *supra* note 37, at 144 nn.6-7 (listing several foreign laws that provide for early publication).

39. See H.R. REP. NO. 105-39, at 33 (1997); Duffy et al., *supra* note 8, at 602-03; see also John C. Todaro, *Potential Upcoming Changes in U.S. Patent Law: The Publication of Patent Applications*, 36 IDEA: J.L. & TECH. 309, 325 (1996) (discussing publication of patent applications 18 months after filing date in European Patent Office, Japan, Canada, and under Patent Cooperation Treaty). Currently, the only other industrialized country besides the United States that does not publish before the grant of a patent application is the Philippines. See *id.* The U.S. patent system is unique in the world in other features, such as remaining nearly the only country with a “first-to-invent” rather than a “first-to-file” system. See Robertson, *supra* note 6, at 576.

40. See Ragusa, *supra* note 37, at 145; see also Kate H. Marshige, *Harmonization of Patent Laws*, 16 HOUS. J. INT’L L. 591, 612 (1994) (citing patent publication as one area of U.S. law that must be changed to achieve patent harmonization). This pressure has greatly increased in recent years, as the United States has entered several multilateral trade agreements that involve intellectual property. See David Silverstein, *Will Pregrant Publication Undermine United States Trade Secret Law?*, 23 AIPLA Q.J. 695, 697-98 (1995) (discussing patent harmonization attempts through the North American Free Trade Agreement (“NAFTA”) and GATT-TRIPS. Of even greater relevance to the issue of pregrant publication are agreements entered into by the U.S. Patent and Trademark Office, negotiating for the United States with Japan). See Jeffery A. Wolfson, Note, *Patent Flooding in the Japanese Patent Office: Methods for Reducing Patent Flooding and Obtaining Effective Patent Protection*, 27 GEO. WASH. J. INT’L L. & ECON. 531, 534-35, (1993-94) (discussing Letters of Agreement between the United States and Japan); see also 143 CONG. REC. H1719, H1726 (discussing and disclosing the “Mutual Understanding”). These agreements and other influences have changed the U.S. position from opposing to supporting some form of pregrant provision. As late as 1991, there was “substantial opposition” to automatic publication of patent applications and hence “hesitation” on the part of U.S. delegations to change this aspect of U.S. law. Jochen Pagenburg, *General Remarks*, 19 AIPLA Q.J. 1, 10 (1991).

41. See *supra* note 40 and accompanying text. The Letters of Agreement involved two parts. The first consisted of the United States amending the length of its patent term to twenty years from the earliest filing date in exchange for the Japanese Patent Office’s acceptance of patent applications in English with corrections allowed during prosecution and after issuance. See Gibbons, *supra* note 3, at 451. The second agreement ended Japan’s practice of pregrant opposition and accelerated its patent examination process. See *id.* The United States has still not met its obligations under this agreement. See *infra* note 44 and accompanying text.

42. See *supra* note 41; see also Todaro, *supra* note 39, at 311. This provision was to take effect on January 1, 1996 under the Mutual Agreement. See *id.*

introduced in Congress that would have created a mandatory pregrant publication system.⁴³ The failure to pass these bills has left the pregrant publication aspect of the agreement with Japan unfulfilled.⁴⁴ Early opposition to these bills led to very limited exemptions for independent inventors,⁴⁵ but such exemptions were not enough to appease the opponents of pregrant patent publication.⁴⁶

During the 105th Congress two more bills were introduced that would have substantially revised the Patent Act and attempted to implement eighteen month patent application publication. Both bills were distinguishable from previous attempts to enact pregrant publication. The first bill, the 21st Century Patent System Improvement Act, relied on the “small entity” status of the current Patent Act⁴⁷ as the basis for a pregrant

43. See *supra* note 13. Many of the provisions of these bills, including pregrant publication, have been under consideration by the United States since the 1960s. See S. REP. NO. 105-42, at 39. Senate Bill 1854, introduced to Congress in 1994, is credited as “the blueprint” for the subsequent attempts to implement 18-month publication of patent applications. See John E. Hudson III, *The US-Japan Agreement for Eighteen Month Publication of U.S. Patent Applications: How Should It Be Implemented?*, 5 J. INT’L L. & PRAC. 87, 99 (1996). Substantially similar provisions also were included in House Bill 3460, House Bill 1733, and Senate Bill 2488.

44. See C. Christopher Baughn et al., *Patent Laws and the Public Good: IPR Protection in Japan and the United States*, BUS. HORIZONS, July 17, 1997; see also MERGES ET AL., *supra* note 13, at 133 n.26 (citing the failure of House Bill 3460 to pass, leaving the U.S.-Japan Agreement unfulfilled); *supra* note 13 (listing pregrant publication bills proposed in recent years). One interesting reason for the rejection of such bills in the 104th Congress was military concern, a point also raised in debates over the more recent bills, but that did not play the same prominent role it did in the 104th Congress. See Sougata Mukherjee, *Inventors, Small Firms Blasting Proposed Patent Office Changes*, S. FLA. BUS. J., Mar. 28, 1997.

45. The first bills proposing pregrant patent publication provided no exemptions. See Duffy et al., *supra* note 8, at 607. But concerns over the impact on small entities soon led to limited exemptions. See *id.* One bill provided that independent inventors could defer publication until three months after an initial patentability determination (that is, an office action) by the PTO. See H.R. 1733, 104th Cong. (1996).

46. See Hayden Gregory, *Patent Reform Legislation—A Time for Reassessment?*, in A.B.A. INTELL. PROP. L. NEWSLETTER, Fall 1998, at 25-26 (discussing drawing of battle lines several years ago for most provisions of the proposed bills); see also Gibbons, *supra* note 3, at 452 (noting opposition to early bills by Representative Dana Rohrabacher, who continued to oppose pregrant patent publication throughout the 105th Congress).

47. The small entity status is a creation of the legislature to reduce patent fees for small businesses, independent inventors, and universities. Patent fees “shall be reduced by 50 percent with respect to their application to any small business concern as defined under section 3 of the Small Business Act, and to any independent inventor or nonprofit organization as defined in regulations issued by the Commissioner of Patents and Trademarks.” 35 U.S.C. § 41(h)(1) (1994). PTO regulations define a small entity as “an independent inventor, a small business concern, or a nonprofit organization eligible for reduced patent fees.” 37 C.F.R. § 1.9 (1998). Rule 9 defines an “independent inventor” as “any inventor who (1) has not assigned, granted, conveyed, or licensed, and (2) is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who could not likewise be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization under this section.” *Id.* Rule 9 further defines a “small business concern” as “any business

publication exemption, if the applicant filed only within the U.S.⁴⁸ The second bill, the Omnibus Patent Act of 1997, expanded the exemption to all applicants that filed only within the U.S.⁴⁹ Both bills granted some “provisional rights” to applicants whose applications were published.⁵⁰ Although the Omnibus Act passed the Senate Judiciary Committee,⁵¹ and the entire House passed the 21st Century Patent System Improvement Act,⁵² neither bill became law.

III. THE CONFLICTING POLICIES AND INTERESTS SURROUNDING PREGRANT PATENT PUBLICATION

The attempts to enact a pregrant patent publication provision revealed several arguments for and against patent application publication. Proponents of pregrant publication argue that America should harmonize its patent laws in order to reduce barriers to trade.⁵³ United States patent laws are a barrier to trade because United States companies wishing to expand internationally face substantial costs when dealing with different types of application processes.⁵⁴ By conforming American law to international norms, the United States can remove these disincentives to international expansion and allow American companies to compete more effectively in international markets.⁵⁵

concern meeting the size standards set forth in 13 C.F.R. Part 121 to be eligible for reduced patent fees.” *Id.* Thus, a small business concern is one whose number of employees, including those of its affiliates, does not exceed 500 persons, and who has not assigned rights to an organization not also a small entity. *See* 13 C.F.R. §§ 121.1301-121.1305 (1998). Finally, Rule 9 defines a “nonprofit organization” as “(1) a university or other institution of higher education located in any country; (2) an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. § 501(c)(3)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. § 501(a)); (3) any nonprofit scientific or educational organization qualified under a nonprofit organization statute of a state of this country (35 U.S.C. § 201(i)); or (4) any nonprofit organization located in a foreign country which would qualify as a nonprofit organization under paragraphs (e) (2) or (3) of this section if it were located in this country.” 37 C.F.R. § 1.9.

48. *See infra* note 89 and accompanying text.

49. *See infra* note 96 and accompanying text; *see also* Gregory, *supra* note 46, at 26 (comparing scope of the two bills).

50. *See generally* S. 507 § 204; H.R. 400 § 204; *see also supra* note 4.

51. *See Senate Judiciary Panel Votes Changes in Patent Procedures*, FED. TECH. REP., June 5, 1997, at 9.

52. House Bill 400 was passed by the House on April 23, 1997. *See* Gregory, *supra* note 46, at 25.

53. *See* Anthony D. Sabatelli, *Impediments to Global Patent Law Harmonization*, 22 N. KY. L. REV. 579 (1995) (discussing how nonharmonization of patent laws is barrier to global trade); Carlos J. Moorehead, *Improving Our Patent System for a Stronger America*, 11 ST. JOHN'S J. LEGAL COMMENT 465, 470-71 (1996).

54. *See* Vito J. Debari, Note, *International Harmonization of Patent Law: A Proposed Solution to the United States' First-to-File Debate*, 16 FORDHAM INT'L L.J. 687 (1993).

55. *See id.*; *see also* Robertson, *supra* note 6, at 593-94. This argument bears some merit for

Additionally, proponents of early publication often cite the elimination of submarine patents as a rationale for pregrant publication.⁵⁶ A “submarine patent” develops when a patent applicant takes advantage of the secrecy in the current U.S. patent law by retaining patent applications in pendency on broad areas of new technology for a long period of time.⁵⁷ The owner of a submarine patent then awaits the development of the new technology, issues (or “surfaces”) the submarine application, and then holds the new technologies as economic hostage.⁵⁸ This practice is possible because inventors may postpone issuance of a patent by refiling slightly different versions of their application.⁵⁹ Proponents of pregrant publication claim that submarine patents cause uncertainty in the marketplace⁶⁰ and unfair costs to consumers,⁶¹ and should be eliminated by pregrant publication.⁶²

American multinational corporations, of whom 65% file in more than one country at the time they file in the United States. See S. REP. NO. 105-42, at 53; see also Marshige, *supra* note 40, at 591 (discussing complexity of dealing with different systems for companies that file applications internationally). Another rationale for the United States to strive toward harmonization is the position that the United States has to make concessions to our trading partners to obtain the changes that we now customarily seek in trade deals. See Moorehead, *supra* note 53, at 471-75. Specifically, a strong current rationale for patent law harmonization is that the United States has already agreed to make these changes in its negotiations with Japan. See *id.*; see also Gibbons, *supra* note 3, at 466-67 (discussing other advantages of harmonization, such as development of a world-wide patent); *supra* note 40 and accompanying text (discussing the Japan-U.S. Mutual Agreement).

56. See, e.g., Duffy et al., *supra* note 8, at 620-21; Gibbons, *supra* note 3, at 469; Robertson, *supra* note 6, at 579, 593; *infra* notes 60-62 and accompanying text.

57. See Hudson, *supra* note 43, at 91. Definitions of submarine patents vary, and a lack of a concrete definition causes difficulty in determining the scope of the submarine patent problem. Compare *House Votes Measure Requiring Notice of Patent Applications*, FED. TECH. REP., May 5, 1997, at 6 (Senator Hatch defines “submariners” as a “bad-faith inventor who attempts to game the existing patent system by indulging in dilatory tactics that prevent the expeditious review of the application”), with Lemley, *supra* note 31, at 391 (defining submarine patents as any that were abandoned and refiled three or more times before issuance). See also Steve Blount, *The Use of Delaying Tactics to Obtain Submarine Patents and Amend Around a Patent that a Competitor Has Designed Around*, 81 J. PAT. & TRADEMARK OFF. SOC’Y 11, 14-15 (1999) (describing different analyses of submarine patents).

58. See Blount, *supra* note 57, at 15-16; Gibbons, *supra* note 3, at 469; Lemley, *supra* note 31, at 391; see also 35 U.S.C. § 119 (1994) (providing for continuing applications); David L. Marcus, Note, *Is the Submarine Patent Torpedoed: Ford Motor Co. v. Lemelson and the Revival of Continuation Application Laches*, 70 TEMP. L. REV. 521, 524-25 (1997) (describing practice of submarine patenting by use of continuing applications).

59. See, e.g., Kate Roberts, *New Legislation Won’t Torpedo Submarine Patents, Group Says*, CORP. LEGAL TIMES, Dec. 1997, at 25.

60. See Christopher R. Balzan, *Mandatory Publication of Patent Applications Prior to Issuance of Patents: A Desirable Change in U.S. Policy?*, 18 LOY. L.A. INT’L & COMP. L.J. 143, 156-57 (1995); see also H.R. REP. NO. 105-39, at 29 (citing costs of hundreds of millions to dollars to industry and ultimately to consumers from dilatory patent applicants).

61. See Moorehead, *supra* note 53, at 484. Some anecdotal stories of submarine patents have been reported as devastating to industry. Most of these stories revolve around the famous Jerome H. Lemelson, who obtained nearly 500 patents (more than anyone else in recent years and fourth on the list of all time patentees), and maintained applications in pendency for up to 35 years (sometimes on

Proponents of early publication also cite other economic advantages of publishing applications. They argue that pregrant patent publication will stimulate new ideas and thus promote invention through earlier disclosure,⁶³ and that it would signal promising areas of research.⁶⁴ They further contend that early publication would reduce the inefficiency of duplicate inventions,⁶⁵ provide greater certainty in the patenting process,⁶⁶ and place American inventors on equal footing with foreign competitors by publishing applications in English that are already published in other languages abroad.⁶⁷

In contrast, opponents to pregrant publication argue that pregrant

technology in the public domain for 40 years) and then filed suit on legitimate patents that infringed his very broad patents, sometimes for hundreds of millions of dollars. *See* Bernard Wyocki, Jr., *Royalty Rewards: How Patent Lawsuits Make a Quiet Engineer Rich and Controversial*, WALL ST. J., Apr. 9, 1997, at A1; MERGES ET AL., *supra* note 13, at 276-77 (discussing *Ford Motor Co. v. Lemelson*, 40 U.S.P.Q.2d 1349 (D. Nev. 1995), and citing Lemelson's claims on technology in public domain for 40 years after 33-year pendency). *See generally* Thomas G. Eschweiler, *Ford v. Lemelson and Continuing Application Laches Revisited*, 79 J. PAT. & TRADEMARK OFF. SOC'Y 457 (1997); Neil Gross & Ottis Port, *Suddenly Detroit Has a Huge Bill to Pay: The Big Three Settle with the Estate of Prodigious Inventor Jerry Lemelson*, BUS. WEEK, July 20, 1998; Marcus, *supra* note 58. Other sources indicate that submarine patenting may be a more widespread problem. *See Forum: The State of Patent Law and Patent Lawyers*, METROPOLITAN CORP. COUNS., Feb. 1998, at 27 (citing study by 21st Century Patent Coalition identifying 320 possible submarines granted between 1971-96, most after 1985, some up to 40 years with over eight refilings).

62. Many believe that, without the provisions of section 122, submarine patents would cease to exist. *See* Balzan, *supra* note 60, at 156; *see also supra* note 59. *But cf.* Roberts, *supra* note 59 (stating that House Bill 400's exemption would not end submarine patent practice); *see also infra* notes 70-71 (discussing limitations on submarine patents and other alternatives to eliminate the practice rather than mandatory publication).

63. *See* Balzan, *supra* note 60, at 154-56; Hudson, *supra* note 43, at 101; *Patent System Overhaul: Hearings on S. 507 Before the Senate Judiciary Comm.*, 105 Cong. (1997) [hereinafter *Patent System Overhaul*] (statement of Commissioner Bruce Lehman). Former Commissioner Lehman made clear that the Clinton Administration strongly opposed modification to allow exemptions to pregrant publication in Senate Bill 507 and the Kaptur Amendment. *See id.* He cited administrative burdens as one of the main factors for his opposition because "up to 35% of annual application filings" could be effected by the Amendment. *Id.*

64. *See* Balzan, *supra* note 60, at 154-56.

65. *See, e.g.,* Duffy et al., *supra* note 8, at 619; Gibbons, *supra* note 3, at 468; H.R. REP. NO. 105-39, at 34 (citing savings in research costs).

66. *See* Gibbons, *supra* note 3, at 468; Robert W. Pritchard, *The Future is Now—The Case for Patent Harmonization*, 20 N.C. J. INT'L L. & COM. REG. 291, 325-26 (1995).

67. *See* Balzan, *supra* note 60, at 160-62; Robertson, *supra* note 6, at 593-94; H.R. REP. 105-39, at 33-34; *see also Patent System Overhaul*, *supra* note 63 (statement of Representative Rohrabacher) (arguing that commercial availability eliminates this argument and that Kaptur Amendment eases concerns raised by proponents of this argument); *see also Talk of the Nation: David Pressman* (National Public Radio broadcast, Feb. 3, 1998) (arguing that U.S. PTO provides sufficient search capabilities for translated foreign patents). Other rationales for pregrant patent publication are reducing costs of research and litigation for U.S. companies, *see* Duffy et al., *supra* note 8, at 618, and benefiting inventors by providing notice of an invention to reduce competition and allowing greater licensing. *See* Gibbons, *supra* note 3, at 468-69.

publication will prove harmful to the U.S. patent system, especially to small entities. For example, opponents cite the possibility of “patent flooding,”⁶⁸ a practice where competitors file many applications “around” the claims of a published patent application, thus limiting the patent’s scope after the application issues, as a potential negative impact of early publication.⁶⁹

The opponents of pregrant publication also attack the reasons cited by proponents of pregrant publication. For example, they challenge the existence of a submarine patent problem,⁷⁰ noting that recent changes to the law have largely eliminated the potential for the practice⁷¹ and that better remedies for the problem exist.⁷² Early publication opponents also attack

68. See Edward J. Webman, *Issues Arising Under an 18 Month Publication Regime: The Initial Response in Light of EPC and PCT Practice*, 77 J. PAT. & TRADEMARK OFF. SOC’Y 909, 912-13 (1995) (discussing this argument as raised by New York Intellectual Property Law Association).

69. See Hudson, *supra* note 43, at 102. Although it is not clear how patent flooding practice will play out under proposals such as House Bill 400 or Senate Bill 507, it is a serious concern that this practice may be encouraged under the new bills. See *id.*

70. See Blount, *supra* note 57, at 14-15. Former PTO Commissioner Bruce Lehman testified that there were 627 submarine patents issued 20 years after filing. But Congressional reports on the 627 patents revealed that 68% of the patents were under “secrecy orders,” pursuant to the Patent Act. Moreover, some had been included erroneously, and a few were delayed by the PTO’s order for divisional applications to be filed, leaving only a handful of actual submarine patents (182 in 22 years). See *id.*; see also Dana Rohrabacher, *Pennies for Thoughts: How GATT Fast Track Harms American Patent Applicants*, *Testimony Before House Subcommittee on Courts & Intellectual Property, Committee on the Judiciary Regarding H.R. 359 and H.R. 1733*, 11 ST. JOHN’S LEGAL COMMENT 491, 497-98 (1996); Balzan, *supra* note 60, at 158.

71. Changing the patent term from 17 years after date of issuance to 20 years after the filing date to comply with GATT-TRIPS provides new disincentives to submarine patenting for applications filed after 1995. See 35 U.S.C. § 154 (1994); Duffy et al., *supra* note 8, at 621; Marcus, *supra* note 58, at 526. Furthermore, courts have also been willing recently to revive the old doctrine of “continuation laches” against patentees that delay for too long before obtaining a patent. See Blount, *supra* note 57, at 17-24 (describing the doctrine’s origin in the Supreme Court from 1924-95); Timothy R. DeWitt, *Does Supreme Court Precedent Sink Submarine Patents?* 38 IDEA: J.L. & TECH. 601, 601-02 (1998) (citing Supreme Court cases decided in 1881 and 1924 as precedent for invalidating submarine patents). See generally Marcus, *supra* note 58. This “revival” of continuing application laches has been spurred by the 1996 district court decision in *Lemelson v. Ford Motor Co.*, 40 U.S.P.Q.2d 1349, 1362 (D. Nev. 1996), *on reconsideration*, 42 U.S.P.Q.2d 1706 (D. Nev. 1997), *appeal denied*, 124 F.3d 227 (Fed. Cir. 1997). But other cases since *Lemelson* have not supported the application of the doctrine. See MERGES ET AL., *supra* note 13, at 277 (discussing *Advanced Cardiovascular Systems v. Medtronic, Inc.*, 1996 U.S. Dist. LEXIS 11696 (N.D. Cal. 1996), which rejected laches defense).

72. It is not clear that pregrant publication is the only or best way to deal with these problems. An alternative is proposed by House Bill 811, which would have provided for publication of applications after five years of pendency unless good reason was shown why such publication would be unfair. See H.R. 811, 105th Cong. (1997). Although attempts at similar legislation have previously failed, a 1995 GAO report indicates a five-year publication provision would effectively eliminate many submarine patents. Representative Rohrabacher has also cited a Congressional Research Service Report that found Kaptur Amendment protections to be “completely effective.” See 143 CONG. REC. H1668 (daily ed. April 17, 1997); see also Rohrabacher, *supra* note 70, at 497-98. House Bill 400 also specifically provided a five-year mechanism similar to the Rohrabacher bill as a limitation on the potential for submarine patents. See H.R. 400 § 202(b)(2)(D)(ii)(I).

harmonization as a rationale, noting that other attempts to harmonize have not always produced desirable results,⁷³ that the American system is more effective in producing new technologies,⁷⁴ and that the loss of trade secret rights through pregrant publication outweighs the benefits of early publication.⁷⁵ They also challenge the language rationale, noting that the amount of information disclosed in a foreign application differs from that disclosed in a U.S. application⁷⁶ and that foreign-filed applications are already often translated into English and available by commercial services or organizations.⁷⁷

Opponents of pregrant publication also raise serious issues regarding the possible impact of pregrant publication on small entities. They argue that small entities will lose their ability to protect themselves from the generation of secondary products by larger entities based on the disclosure of their

73. See, e.g., Sabatelli, *supra* note 53, at 608 (WIPO Patent Treaties allow nations to determine what areas of subject matter to allow to be patentable within their own country without providing any type of best-mode requirement currently required under international law).

74. See, e.g., Hudson, *supra* note 43, at 104. For example, in 1993 the U.S. had almost 60,000 "influential patents," defined as those "that are of significant value," almost twice as many as Japan, Italy, the U.K., France, and Germany combined. See *id.*; see also Balzan, *supra* note 60 (describing United States as having 36 times more scientific Nobel Laureates than Japan); Gibbons, *supra* note 3, at 470.

75. See, e.g., Ragusa, *supra* note 37, at 175. This argument takes into account the differences between the U.S. system and that of Japan or other pregrant publication countries. Japan, which strongly pressed the United States to make pregrant publication concessions, is characterized as having "different fundamental policy considerations" as its guide to promoting intellectual property protection than the United States. Namely, Japan's system favors technological development versus the U.S. approach which favors innovation through the grant of individual property rights. See Hudson, *supra* note 43, at 93; M. Brendan Chatham, Note, *The Impact of the 'Technology Transfer Surplus' on the Trade Deficit with Japan and Its Cures*, 25 GA. J. INT'L & COMP. L. 561 (1996) (noting differences between the U.S. and Japanese system that place U.S. inventors at a disadvantage to their Japanese counterparts); William C. Revelos, Note, *Patent Enforcement Difficulties in Japan: Are There Any Satisfactory Solutions for the United States?*, 29 GEO. WASH. J. INT'L L. & ECON. 503 (1995) (describing differences in Japanese Patent Office, business society, and significant differences in courts, including lack of discovery, adequate remedies or injunctive relief, no jury system, limited presentation of evidence as limitations on intellectual property protection in Japan); see also Duffy et al., *supra* note 8, at 623-24 (discussing uniqueness of United States in possessing independent inventive culture absent from other countries). The Supreme Court has upheld the importance of trade secret protection as complimentary to the patent system within the United States. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 482-84 (1974). The Court in *Kewanee* noted that one of the problems that would arise if trade secret law were preempted by federal patent law would be the harm to the public due to unwillingness of innovators to use secret developments where they could be discovered without further protection. See *id.* at 486-89. Courts have given serious protection to owners of trade secrets, recognizing such secrets as an important form of intellectual property that also must be considered in view of public benefit, see *id.*; *Rockwell Graphics Sys., Inc. v. DEV Indus., Inc.*, 925 F.2d 174, 179 (7th Cir. 1991), and as a property interest subject to the Takings Clause of the Fifth Amendment. See *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1001 (1984).

76. See, e.g., Revelos, *supra* note 75.

77. See *supra* note 67.

inventions in published patent applications.⁷⁸ They further argue that patents act as a protection to small entities that is simply not needed by large corporations due to their market power.⁷⁹ Thus, opponents reason that large corporations could create similar devices or processes to disclosed inventions and effectively corner the market before small entity patentees ever produce their inventions, rendering the patent's protection useless.⁸⁰ Moreover, opponents reason, pregrant patent publication may similarly promote earlier copying of U.S. inventions overseas.⁸¹

Pregrant patent publication may also limit the ability of small inventors to commercialize their inventions. The reduced value of pending patent protection to small entities may also discourage investment from venture capitalists who provide the means for small entities to transform their patentable ideas into marketable realities.⁸² Similarly, an inventor might lose the ability to negotiate with large corporations that may have formerly bargained for rights to a patentable invention.⁸³ In short, opponents argue that pregrant publication destroys the competitive balance that the current patent system creates between small entities and large corporations. This, they argue, would be particularly detrimental to the American economy, which

78. See Hudson, *supra* note 43, at 102; Robertson, *supra* note 6, at 594; see also *Dateline* (NBC television broadcast, Mar. 23, 1997) (describing how large corporations devalue small entity patents through production of noninfringing secondary products).

79. See J. Douglas Hawkins, *Importance and Access of International Patent Protection for the Independent Inventor*, 3 U. BALT. INTELL. PROP. J. 145, 148 (1995); see also Kaltenheuser, *supra* note 16 (noting Federal Circuit Chief Judge Howard Markey's statement that patents are no longer required by giant corporations except to defend themselves from infringement suits by original inventors); Robertson, *supra* note 6, at 594 (noting difficulty of small entities in raising enough resources to sue a large corporation).

80. See, e.g., Duffy et al., *supra* note 8, at 614-16; William T. Fryer, *1989 Summary of Proceedings*, 1989-90 A.B.A. SEC. PAT. TRADEMARK & COPYRIGHT L. REP. 94.

81. See 143 CONG. REC. H1629, H1630 (statement of Representative Rohrabacher); Gibbons, *supra* note 3, at 471-72; Hudson, *supra* note 43, at 102; see also Robertson, *supra* note 6, at 594 (noting possible lack of a remedy for loss of disclosed technology to foreign entities).

82. See Inventors Digest, *Comments about H.R. 400* (visited Oct. 1, 1997) <<http://www.inventorsdigest.com/400comments.html>> (quoting venture capitalist Alex Dingee as saying that venture capitalists would not invest in small companies and independent inventors if they could not protect their investment through patent protection or trade secret protection); see also Balzan, *supra* note 60, at 149. Due to the uncertainty caused by release of an inventor's trade secret without patent protection or assurance of a grant of a patent, the applicant loses what was his competitive edge in the current system. See *id.* The impact of such loss of intellectual property rights is greater in newer technologies such as biotech, which is more dependent on patents than other technologies. See David W. Dykhouse et al., *When Biotechnology Lending Is Worth Risking*, N.Y. L.J., March 9, 1998, at S6 (discussing success of "bioventure" based on "a handful of patent applications and a sketchy business plan"); Letter from Charles E. Ludlam and Dave Shmickel to Senator Patrick Leahy (June 28, 1998), available at 144 CONG. REC. S8377, S8378 (daily ed. September 22, 1998) [hereinafter Ludlam Letter] (describing biotechnology as investing more than any other industry in research and relying on patents for an incentive for such research).

83. See Balzan, *supra* note 60, at 149.

disproportionately relies on pioneer inventions to originate from small entities.⁸⁴

IV. ANALYSIS OF PRIOR CONGRESSIONAL ATTEMPTS TO ENACT A PREGRANT PUBLICATION PROVISION

The result of the conflict between those who oppose pregrant publication and those who support it is that none of the proposed pregrant patent publication bills have received enough congressional support to become law.⁸⁵ The original attempts to provide pregrant patent publication provided no exemptions, or limited exemptions, for applicants.⁸⁶ These former attempts were unsuccessful in part due to small entity opposition.⁸⁷ Beyond the political problems with a mandatory pregrant publication scheme, a pregrant publication system that does not provide exemptions may be bad public policy and may possibly even contravene the Intellectual Property Clause.⁸⁸

In the 105th Congress, lawmakers came closer than ever before to enacting a pregrant publication provision by attempting to reach a compromise between proponents and opponents of pregrant publication by granting broad exclusions to mandatory pregrant publication and providing other protections for owners of published patent applications. These exclusions were based on where an applicant filed for patent protection or where the applicant filed in combination with the applicant's legal status as a small entity.⁸⁹ Because these proposed bills were more successful than their

84. *See id.*

85. *See supra* notes 13, 43 and accompanying text.

86. *See, e.g.,* S. 1854 § 2(e); *see also infra* note 90 (noting concessions made over the development of patent reform bills in recent years).

87. *See supra* notes 43, 45-46 and accompanying text.

88. *See supra* notes 21-23 and accompanying text.

89. *See infra* notes 91-96 (detailing differences between the bills). Compare H.R. 400 § 202, with S. 507 § 202 (regarding different exemptions). Originally, both bills did not provide for such broad exemptions. Prior to passing the House, House Bill 400 provided a more limited exemption of publication three months after the initial "patentability determination"—that is, an office action. *See supra* notes 29, 32; *see also* H.R. REP. NO. 105-39, at 34. The bill failed to pass, however. *See* 143 CONG. REC. H1683-84. It was amended by the Kaptur Amendment, which exempted domestic applicants who met the criteria for independent inventors, small businesses, and universities, before being passed by the House. *See* Robertson, *supra* note 6, at 589; 143 CONG. REC. H1740-41 (daily ed. April 23, 1997); *see also infra* note 91; *supra* note 47 (describing legal definition of "small entity" relied on in Kaptur Amendment). Similarly, Senate Bill 507, which originally had no exemption, was modified by the inclusion of the Hatch-Leahy Amendment, which would have allowed domestic-only applicants to certify they had not filed abroad and by doing so avoid publication of their applications. *See* 143 CONG. REC. S7860 (daily ed. July 22, 1997) (statement of Senator Leahy); *see also infra* note 96.

predecessors, more aligned with the policies of the Intellectual Property Clause, and more likely to serve as models for new legislation⁹⁰ an analysis of these provisions is important in developing a Model Pregrant Publication Provision.

Prior to the House passage of the 21st Century Patent System Improvement Act, the bill was substantially modified by the addition of the “Kaptur Amendment,” which created an exemption for small entities from the publication provisions of the bill.⁹¹ Under the bill, a small entity application is exempt unless (1) the applicant applied in another country and such application was in the public domain;⁹² (2) the application was pending for more than five years and the PTO found publication to be in the public interest⁹³ or that the applicant intentionally delayed publication;⁹⁴ or (3) if the applicant is not diligently prosecuting the application and the application is not abandoned after five years, the PTO may publish the application after notice and an opportunity for the applicant to petition the Commissioner regarding the application’s status.⁹⁵

The Omnibus Patent Act, after amendment due to small entity opposition, provided for an even broader and more simple exclusion for any applicant, regardless of entity status, that had not filed for foreign patent protection or requested publication.⁹⁶ The decision not to base exemptions on small entity status supported the Act’s overall policy to not discriminate in its treatment

90. See Gregory, *supra* note 46, at 27 (stating that political reality is that concessions that have been made, especially those made in both Houses, cannot be recalled and become the starting point for new legislation); see also Duffy et al., *supra* note 8, at 610 (predicting that a successful pregrant patent publication law would fall between the provisions of the proposed bills, and noting that the concession of exemptions was forced on lawmakers).

91. The Kaptur Amendment provided for the small entity exception and the five-year mandatory publication provision. See H.R. 400 § 202(b)(1)(D)(ii)(I); 143 CONG. REC. H1731 (daily ed. April 23, 1997); see also Robertson, *supra* note 6, at 589 (describing the Kaptur Amendment). Nevertheless, House Bill 400, even after the Kaptur Amendment, still provided, “At the request of the applicant, an application may be published earlier than the end of such 18-month period.” H.R. 400 § 202(b)(1)(A); S. 507 § 202(b)(1)(A).

92. See H.R. 400 § 202(b)(2)(D)(i).

93. See *id.* § 202(b)(2)(D)(ii)-(iii).

94. See *id.* § 202(b)(2)(D)(iv).

95. See *id.* § 202(b)(D)(ii)-(iii).

96. See S. 507 § 202(b)(2). Other exceptions in Senate Bill 507 included applications subject to a secrecy order, continuing applications, divisional applications, and applications asserting priority. See *id.* Applications under the Patent Cooperation Treaty are also exempted. See *id.* Section 202 requires applicants to “certify” that the application “was not and will not be the subject of an application filed in a foreign country.” *Id.*; see also Duffy et al., *supra* note 8, at 609-10. Senator Hatch, cosponsor of Senate Bill 507, modified the bill in response to pleas for a Kaptur-like exemption. Originally containing no exemptions from publication, the bill provided the broader exceptions and incentives in Senate Bill 507 that have been reported as “even more favorable to small businesses.” See Barlas, *supra* note 15; see also *supra* note 89 (discussing Hatch-Leahy Amendment, which embodied these changes).

of different PTO “users.”⁹⁷

Upon comparison of the two bills, the first question that arises is whether an exclusion from publication should be extended only to small entities or to all U.S.-only applicants. Arguably, the question may be more academic than actual because most applicants exempted under the Kaptur Amendment’s definition of “small entity”⁹⁸ are also the least likely to file abroad.⁹⁹ Nonetheless, because the small entity exception used in the Kaptur Amendment creates a discriminatory two-tiered structure within the Patent Act based on an arbitrary number of employees,¹⁰⁰ the 21st Century Patent System Improvement Act’s reliance on it to determine exemptions is a questionable policy choice.¹⁰¹

The problems with the “legal” definition of a “small entity”¹⁰² relied on by the Kaptur Amendment, however, does not mean that small businesses, independent inventors, and some universities should not be exempted from pregrant publication. These groups could be protected equally under either a domestic application only provision, as set out in the Omnibus Patent Act, or by a more limited small entity exception. Indeed, the policy of the Intellectual Property Clause itself, to promote science and the useful arts through the patent system,¹⁰³ suggests that some exemptions are necessary.¹⁰⁴ Under a mandatory pregrant publication system, trade secret law would very often become a more attractive option for small entities with new

97. This was the goal throughout Senate Bill 507. The bill additionally provided for the creation of an Ombudsman to deal with the concerns of independent inventors, small businesses, and nonprofit entities. *See* S. REP. NO. 105-42, at 51.

98. *See supra* note 47 (describing small entity status under current law).

99. *See infra* note 121 and accompanying text.

100. *See supra* note 47 (small entity status for businesses is based on having less than 500 employees).

101. *See Committee Reports To Be Presented at the Annual Meeting, Atlanta, Georgia, 1983* A.B.A. SEC. PAT., TRADEMARK & COPYRIGHT L. REP. 269. The A.B.A.’s Section on Patent, Trademark, and Copyright Law noted in its reports that “the small business criterion” used by the small entity exception for patent fees “is necessarily arbitrary, and thus both unfair to, and a deterrent to innovation by those companies who fail to satisfy the arbitrary standard.” Furthermore, “it unavoidably creates paperwork and distracting side issues in the preparation and prosecution of patent applications . . . and it raise[s] issues subject to potential collateral attack in infringement proceedings.” *Id.* *See generally* Richard A. Sterba, *Small Entity Status: Who’s “Small,” Who Isn’t, Who Should Be, and Why?*, 25 AIPLA Q.J. 425 (1997) (describing the legal definition of small entity status and noting problems with it). The most problematic form of small entity status is given to small businesses as defined under the Small Business Act. *See id.* at 429-31. Furthermore, the determination of small entity status based on size alone for small companies may not be the most ideal system for achieving the goals for which the status was created. *See id.* at 440-43; *see also infra* note 156 and accompanying text.

102. *See supra* note 47.

103. *See supra* note 21 and accompanying text.

104. *See supra* notes 22-23 and accompanying text.

technologies, thus inhibiting public disclosure and preventing scientific progress.¹⁰⁵ Moreover, because a pregrant publication provision may actually create a preemption of trade secret laws, such preemption may result in even more secrecy on the part of inventors, less invention, and consequently less public gain.¹⁰⁶ Support for some exclusion for a limited small entity class may also be found in the notion that access to adequate patent rights for all inventors, not just large corporations, is inherent in the economic-neutral terms of the clause.¹⁰⁷

Beyond the constitutional considerations, an exemption for small entities is good policy, due to the unique role small entities play in developing U.S. intellectual property. Small entities play a significant role in the progress of science in our society because of the great ingenuity they originate. The creation of “primary patents,” or “pioneer patents,” those patents which start a new field of technology, for example, are disproportionately credited to the inventions of independent inventors and small firms.¹⁰⁸ For example, over fifty percent of all new inventions and patents developed in the U.S. are developed by small businesses.¹⁰⁹ Moreover, over half of what are considered the most important inventions of the twentieth century were developed by independent inventors and small firms.¹¹⁰

Small entity inventors play an important overall role in the creation of patentable inventions¹¹¹ and the American economy.¹¹² Without some type of small entity exemption, many small entities may opt out of the patent

105. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 482-93 (1974) (discussing relationship between patents and trade secrets, and noting that both are used to serve public by creation of inventions and that law that would violate this public policy element contravenes the Constitution and public policy behind both bodies of law). See generally Billy A. Robbins, *Overview: Trade Secret Law as It Fits into the Overall Scheme of Intellectual Property Law*, in PROTECTING TRADE SECRETS 1985, at 33 (PLI Patents, Copyrights, Trademarks, and Literary Property Course Handbook Series No. 64-3761, 1985) (discussing importance of trade secrets and their relationship with patent law); PETER D. ROSENBERG, PATENT LAW BASICS § 2.08, 2-12 to 2-17 (1997).

106. See *Kewanee*, 416 U.S. at 486-87 (noting potential harm to public arising from preemption of trade secret law).

107. See generally Valerie Calloway, Note, *In the Process of Controverting Its Constitutionally Given Purpose the U.S. Patent System Discriminates Against Inventors with Limited Financial Means*, 11 LAW & INEQ. J. 565 (1993) (suggesting that patent clause of Constitution suggests that access to patent protection should not be based on economic position).

108. See Hawkins, *supra* note 79, at 146.

109. See Balzan, *supra* note 60, at 160.

110. See *id.* at 161. Universities, the third group protected by the “small entity” exception, have also substantially contributed to the progress of science through the patenting of inventions. See generally Edward L. Macordy, *The Threat of Proposed Patent Law Changes to the Research University*, 20 J.C. & U.L. 295 (1994).

111. See *supra* notes 84-86 and accompanying text.

112. Small and medium size businesses produce approximately 75% of the U.S. gross national product. See Balzan, *supra* note 60, at 151.

acquisition process, thus impacting the progress of science, as well as the U.S. economy. Furthermore, foregoing patent protection may put small entities at a competitive disadvantage against large corporations,¹¹³ leading to further negative economic effects. Considering the important role small entities play in America's technological advances and economy, it is in the public's best interest to maintain means for them to access patent protection.¹¹⁴

But the scope of sound public policy is not limited to protecting small entities alone. Public policy and national interest considerations also support taking steps toward harmonizing the United States patent system with the rest of the world. In addition to creating a barrier to trade, the current U.S. patent system places American companies that apply for foreign patents at a competitive disadvantage due to the lack of English translations of foreign published patents¹¹⁵ and differences in the application process.¹¹⁶ Furthermore, eliminating the threat of submarine patents¹¹⁷ and fulfilling U.S. obligations with our foreign trading partners¹¹⁸ are also goals facilitated by pregrant publication. Thus, the adoption of a pregrant patent publication provision, with appropriate exceptions, would also be good policy that promotes the Constitution's goals for the patent system.¹¹⁹

Any future pregrant publication provision must balance the benefits that come from pregrant publication with the protection of intellectual property rights for those who need the assistance most by limiting publication. Such a compromise is mandated when one recognizes that the U.S. patent system serves two different, but equally important, groups of inventors who will be affected differently by the publication of patent applications.¹²⁰

Besides providing protection for small entity inventors, a provision with a domestic applicant only, or limited small entity publication exception, will largely achieve the desired goals of international harmonization. Because approximately seventy-five percent of the U.S. patent applications that are

113. See *infra* notes 117-22 and accompanying text.

114. See *Committee Report: Division Under Section Vice Chairman, John C. Dorman*, 1982 A.B.A. SEC. PAT., TRADEMARK & COPYRIGHT L. REP. 251. According to the ABA Report, "the public possesses a substantial interest in seeing small businesses retain incentives to make inventions and obtain patents." *Id.*

115. See *supra* note 67 and accompanying text.

116. See generally Hudson, *supra* note 43.

117. See *supra* notes 56-62 and accompanying text.

118. See *supra* note 40.

119. See *supra* notes 21-23 and accompanying text (noting constitutional policy); *supra* notes 63-67 and accompanying text (discussing potential positive effects of pregrant publication).

120. See *supra* Part III.

also filed abroad would be published under such a provision,¹²¹ the goal of compliance with our trading partners will be met adequately.¹²² Furthermore, a domestic applicant only or limited small entity exception that applies to both American and foreign small entities complies with the principle of national treatment required under most international intellectual property agreements.¹²³ Moreover, the proposed practice of publication of U.S. applications only to the extent that inventions are disclosed in the published foreign patent applications also achieves harmonization while simultaneously protecting U.S. inventors' trade secret rights. Thus, a provision similar to those proposed in the 105th Congress would largely achieve the goals of large corporate patent owners as well as those of small entities.

In addition to providing exclusions from pregrant publication, both bills also provided for provisional rights for pending applications.¹²⁴ The provisional rights of both sections allow an applicant to obtain a "reasonable royalty"¹²⁵ from those who produce a "substantially identical"¹²⁶ invention. While such provisions undoubtedly foster some confidence in a pregrant publication system, the proposed remedies may be inadequate for the type of copying most small entities fear will result after applications are published.¹²⁷

An important distinction between the Omnibus Patent Act and the 21st Century Patent System Improvement Act was that the former bill provided applicants with an incentive for voluntary publication. Under the Omnibus Patent Act's publication provision, individual claims in a published application that were considered patentable could be issued as a patent

121. See 143 CONG. REC. H1637 (daily ed. April 17, 1997) (statement of Representative Coble) (stating that 75-85% of applications filed in the United States are also filed abroad). Approximately 45% of these applications are filed by foreign applicants, and the other 35% are filed by U.S. corporations. See Duffy et al., *supra* note 8, at 606-07. One reason that small entities opt out of such a system is cost. See Michael N. Meller, *Planning for a Global Patent System*, 80 J. PAT. & TRADEMARK OFF. SOC'Y 379, 380 (1998) (citing cost of \$500,000 for covering one patent worldwide).

122. See Inventors Digest, *House Resolution 400: The 21st Century Patent System Improvement Act, Facts and Myths About H.R. 400* (visited Oct. 1, 1997) <http://www.inventorsdigest.com/legislative_alert.html>.

123. The principle of "national treatment" essentially requires that "a foreigner enjoys no lesser rights than a citizen of that nation receives, subject to the specific terms of the relevant international conventions." INFORMATION INFRASTRUCTURE TASKFORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS 140 (1995). The United States is required to provide national treatment pursuant to several intellectual property treaties. In the patent area the most notable treaties are the Paris Convention, NAFTA, and GATT-TRIPS. See *id.* at 143-44 (discussing national treatment under NAFTA and TRIPS).

124. See *supra* note 4.

125. Reasonable royalties are the minimum legal remedy available for patent infringement under 35 U.S.C. § 284 (1994). See *infra* note 139 (discussing reasonable royalties under the Patent Act).

126. See *supra* note 4 (discussing this standard).

127. See *infra* note 139 and accompanying text.

containing those individual claims, without requiring patentability as a whole, or abandonment of the still pending claims.¹²⁸

The Kaptur Amendment also proposed a unique addition to the bills by limiting the scope of publication to application information published in a foreign country.¹²⁹ Under that provision, the U.S. applicant is required to make information in foreign published applications available only if the data in the foreign application is not available, or cannot be made readily available, in the English language through commercial services.¹³⁰

The 21st Century Patent System Improvement Act also went further than the Omnibus Patent Act by placing a time limit for mandatory publication after five-years pendency.¹³¹ Unless an application was under appellate or administrative review, a secrecy order, or was being diligently pursued, the PTO could publish the application regardless of small entity status.¹³²

The bills proposed in the 105th Congress go a long way to resolving many of the problems in the pregrant publication debate. A combination of the best parts of the bills alone would go further than either of the proposed bills. Beyond mere combination of the best components of the bills, there are other important areas where a pregrant publication provision could be improved to better balance the opposing interests in the pregrant publication debate.

V. PROPOSAL: A MODEL PREGRANT PATENT PUBLICATION PROVISION

The limited exclusions from patent application publication proposed in the 21st Century Patent System Improvement Act and the Omnibus Patent Act were a large improvement over previous attempts to enact a pregrant publication provision. Nevertheless, further improvements could be achieved by combining unique provisions of the bills, modifying inadequate provisions, and adopting new sections that further the goals of the bills and the patent system. Specifically, a Model Provision should address these issues by (1) defining who is exempted from pregrant publication, (2) adopting an early claim issue incentive, (3) adopting and remedying inadequacies in English-availability provisions, (4) giving courts greater discretion in remedying infringement of inventions in published applications, (5) providing judicial and administrative review of publication

128. See S. REP. NO. 105-42, at 51, 53.

129. See H.R. 400 § 202(b)(2)(D)(i).

130. See *id.*

131. Compare H.R. 400 § 202(b)(2)(D)(ii), with S. 507 § 202.

132. See H.R. 400 § 202(b)(2)(D)(ii).

determinations, and (6) providing mandatory five-year publication with clearer guidelines and exceptions for newer technologies. Because these changes will better meet the constitutional and public policy concerns surrounding the pregrant publication debate, they should be adopted into any upcoming pregrant publication provision.

The first issue that must be addressed in proposing a Model Pregrant Patent Publication Provision is determining who should be exempted from publication. While a more limited small entity exception would achieve a workable compromise between opponents and proponents of publishing patent applications, the Omnibus Patent Act's extension of an exception to all applicants who file only within the United States makes more sense.¹³³ Thus, an ideal exclusion should be based on whether or not the applicant filed only within the U.S.

The next issue is selecting what unique features of the two bills should be retained in the Model Provision. One strong component proposed by the Omnibus Patent Act was its voluntary publication incentive provision that provided for early issuance of claims in applications that have been voluntarily submitted to pregrant publication, thus increasing the patent term on those claims and encouraging inventors to publish their applications early.¹³⁴ A Model Provision should incorporate this incentive to promote voluntary pregrant publication and offset the loss of trade secret rights. And, if administrative costs are placed on this request, the small entity fee structure should apply under this provision.

The 21st Century Patent System Improvement Act's limitation of pregrant publication requirements to only noncommercially accessible applications was an important recognition that the majority of foreign patent applications are often readily available in English.¹³⁵ While this saves administrative costs, as proposed, the language of this feature is ambiguous and may not adequately ensure that information on these applications is accessible to inventors in the United States. Thus, another area where improvement should be made is in ensuring that American inventors have access to published foreign applications on inventions still pending in the PTO. The 21st Century Patent System Improvement Act failed to provide a specific definition of what is commercially accessible¹³⁶ and did not require that accessible copies be reasonably affordable to inventors. In view of these two omissions, a similar provision could be improved to better address the

133. *See supra* note 47.

134. *Id.*; *see also* S. REP. NO. 105-142.

135. *See* Inventors Digest, *supra* note 82.

136. *See* H.R. 400 § 202(b)(2)(D)(i).

concern that U.S. inventors are disadvantaged by the current system.¹³⁷

Beyond choosing unique features, a Model Provision should also modify proposals where both bills fall short of providing necessary protection. One area where improvement can be made is in providing provisional rights for owners of published applications. These rights should be strengthened to discourage patent flooding and infringement of the disclosed inventions before a patent issues in order to promote use of the patent system. The remedies in both bills in the 105th Congress were limited to a reasonable royalty for only substantially identical infringing devices.¹³⁸ These limited provisional rights alone may not be an adequate deterrent to large corporation patent flooding, or market flooding as illustrated in the DreamGene hypothetical.¹³⁹

By limiting the inventor's remedy to a reasonable royalty, the bills severely restricted the available remedies for patentees¹⁴⁰ and trade secret

137. See *supra* note 67 and accompanying text.

138. See *supra* note 4 (discussing the substantially identical standard).

139. See *King Instruments Corp. v. Perego*, 65 F.3d 941, 951 n.6 (Fed. Cir. 1995) (discussing the inadequacy of a "reasonable royalty" for damages under section 284); see also 143 CONG. REC. H1730 (daily ed. April 23, 1997) (statement of Representative Hunter) (noting that the reasonable royalty rate of 2-3% is "no substitute for getting 20-30% of the action" as would be available under a regular patent license). The reasonable royalty in patent law is usually provided only when there is a failure to prove general damages. See Wesley Kobylak, *Factors To Be Considered in Determining a "Reasonable Royalty" for Purposes of Calculating Damages for Patent Infringement Under 35 U.S.C.A. § 284*, 66 A.L.R. Fed. 186 (1984). Section 284 indicates that this is the minimum relief obtainable. See 35 U.S.C. § 284 (1994); 3 ERNEST BAINBRIDGE LIPSCOMB III, LIPSCOMB'S WALKER ON PATENTS 40-47 (3d ed. 1985). Generally, courts have construed section 284 liberally in favor of patentees. See, e.g., *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655 (1983) (holding that Congress's overriding purpose in enacting section 284 was to provide patent owners "complete compensation"); *Rite-Hite Corp. v. Kelly Corp.*, 56 F.3d 1538, 1543-45 (Fed. Cir. 1995) (en banc) (same, and liberalizing lost profits to foreseeable injuries that arise from infringement, including lost profits on unpatented competing devices that compete with an infringing device). Indeed, the concept of a reasonable royalty is a legal fiction, only intended to ensure that a patentee is awarded damages for infringement. See, e.g., *Sel-O-Rak Corp. v. Henry Hanger & Display Fixture Corp.*, 159 F. Supp. 769 (D.C. Fla.), *aff'd*, 270 F.2d 635 (5th Cir. 1958). Because courts have used various methods to determine reasonable royalties, it is difficult to determine what type of loss would occur in cases where an inventor was limited to such relief. Similarly, in trade secret cases where damages have not been determined, courts often award a reasonable royalty. See Michael A. Rosenhouse, Annotation, *Proper Measure and Elements of Damages for Misappropriation of Trade Secret*, 11 A.L.R. 4th 12 (1987). But the most common measure of damages for trade secret misappropriation, like patent infringement, is the defendant's profits. See *id.*; see also *infra* note 141 (discussing remedies for trade secret misappropriation). Because infringement of a pending published application would necessarily involve technology that was not licensed, the most common method of determining a reasonable royalty would not be available to a court. See LIPSCOMB, *supra*, at 61-62 (discussing the use of available licenses as the most common way to determine a reasonable royalty in patent infringement).

140. See 35 U.S.C. § 283 (1994) (providing for injunctions for patentees against infringement); *id.* § 284 (providing for lost profits, as well as treble damages in cases of willful infringement); see also *supra* note 139 (discussing reasonable royalties as a minimum under section 284 and other problems with a reasonable royalty as a damage). Injunctive relief, the most important remedy on which most

owners.¹⁴¹ Furthermore, because the inventions at issue when dealing with patent applications are by their very nature “new,” such reasonable royalties will be difficult, if not entirely impossible, for courts to determine.¹⁴² Moreover, a reasonable royalty on such inventions may greatly undervalue the actual harm to the inventor arising from infringement.¹⁴³ Also, due to the limitations on the remedies available to inventors, large corporations may willfully infringe a new invention and disregard the costs under such limited remedies.¹⁴⁴ Thus, a Model Provision should provide courts with the discretion to impose damages, increased royalties, or limited injunctions, and provide the possibility of costs and attorney’s fees in extreme cases.¹⁴⁵

A Model Provision should also adopt new provisions that would improve upon the goals of the older bills. For example, because of the importance of application confidentiality to small entities, both bills were inadequate because they failed to provide for administrative and judicial review of PTO decisions relating to publication. In cases of new technological inventions, or other unforeseen circumstances that may require longer time periods for publication, such review may be important to protect the rights of inventors and to prevent administrative errors. Because the resolution of such issues will involve important factual determinations, the Act should provide more structured mechanisms for appeal by applicants who may be harmed by mandatory publication.¹⁴⁶

patentees rely, is absent from both bills’ provisional rights sections. *See MERGES ET AL.*, *supra* note 22, at 297-98 (discussing the importance of injunctive remedies to patentees). Indeed, a reasonable royalty award is in effect a compulsory license, which U.S. law does not normally allow, as the inventor is required to allow use on terms that he did not in fact negotiate himself. *See MILLER & DAVIS*, *supra* note 10, at 12-13 (noting U.S. law does not require compulsory licensing).

141. *See* UNIF. TRADE SECRET ACT (1996) (“UTSA”). The UTSA has now been adopted by 40 states and the District of Columbia and contains remedies provided in other states under common-law principles. More specifically, UTSA section 2(b) provides for injunctive relief, section 3 provides for actual losses and retribution arising from misappropriation, section 3(b) provides for punitive damages up to double the trade secret owner’s actual damages in “malicious misappropriation cases,” and section 4 awards attorney’s fees in cases of “willful and malicious misappropriation.”

142. *See* Sumanth Addanki, *Lost Profits and Reasonable Royalties: Approaching Patent Damages from an Economic Perspective*, 7 J. PROPRIETARY RTS. 2 (1995); *see also* MERGES ET AL., *supra* note 22, at 298 (noting valuation problems for regular patents and trade secrets); *supra* note 139.

143. *See generally* Addanki, *supra* note 142. Another consideration is comparing damage availability and awards under the proposed provisional rights measures with what rights an applicant would have under trade secret law. *See supra* note 141.

144. *See generally* Addanki, *supra* note 142.

145. *See infra* notes 161-63 and accompanying text.

146. The bills proposed in the 105th Congress expressly rejected any review for such determinations. *See* H.R. 400 § 202(b)(1)(C); S. 507 § 202(b)(1)(C). The reason for this provision was not clearly specified either in the debates or reports for the bills. In view of the value placed on trade secret rights that are lost in exchange for disclosure, such a provision seems questionable, and thus this Note suggests providing administrative review for such determinations under the Administrative Procedure Act. *See infra* note 164 and accompanying text.

Moreover, the 21st Century Patent System Improvement Act's adoption of mandatory publication after a five year pendency to prevent submarine patents strengthens the disincentives for delaying issuance.¹⁴⁷ While for many types of inventions this is acceptable, for new cutting-edge technologies five years will often not provide an adequate amount of time for the complete processing of the patent application.¹⁴⁸ This is especially true for newer technologies.¹⁴⁹ Applications in biotechnology and computer technology, for example, often exceed five years to prosecute.¹⁵⁰ Although the House bill provided for a discretionary exception when an applicant is still diligently pursuing a patent, this may not be sufficient to protect such important inventions, especially in consideration of the time that the inventor invests.¹⁵¹ Because mandatory five-year publication may lessen motivation to patent inventions in new technology,¹⁵² the requirement may be contrary to constitutional and policy concerns necessary to the Patent Act. Greater flexibility in this provision should be adopted to effectively meet these concerns.

Considering the six areas discussed above, and the suggested modifications and additions referenced above, this Note proposes that Congress adopt the following Model Pregrant Patent Publication Provision.

147. See Addanki, *supra* note 142. Although the provision provides for appeals to the Commissioner, the reality is that, in many technical fields, five years may not be sufficient time to fully prosecute an application vulnerable to the same concerns addressed by the Kaptur Amendment. See generally Lemley, *supra* note 31. Professor Lemley discusses average times ranging from 4.3 years for biotechnological inventions to nearly 3 years for chemical inventions and software patents. See *id.* But cf. GAO REPORT II, *supra* note 31, at 11, 14 (citing a 1994 pendency for the Biotechnology examining group of 21.5 months and 21.4 months in 1995 for those applications not abandoned or under secrecy order, and citing 62.9-75.3 months on average for all applications under secrecy order). See also Ludlam Letter, *supra* note 82 (stating that patentees in biotechnology have lost more under the GATT changes than any other industry). With an average pendency of 4.3 years, a significant number of biotechnological inventions are likely to be over five years and truly new technical advances in this or in any field may require longer to prosecute. See Seachrist, *supra* note 15 (citing application times for biotechnology patents of up to 10 years); see also *infra* note 148 and accompanying text.

148. See *supra* note 147; see also Kaltenheuser, *supra* note 16 (citing 5-10 years for new technology).

149. See *id.*

150. See *supra* notes 147-48.

151. See H.R. 400 § 202(b)(2)(D)(ii)(VI). There have been critics of the diligence standard who find it unlikely that it will be invoked and thus an empty protection. See Duffy et al., *supra* note 8, at 609; 143 CONG. REC. H1677 (daily ed. April 17, 1997) (statement of Representative Coble). In part to remedy such criticism, this Note proposes an absolute bar at seven years of prosecution, which would be enough time for the majority of applications, even in newer technologies. See *supra* notes 32, 138 (discussing pendency in such technologies); see also *infra* note 167 (discussing reasons supporting a mandatory seven-year bar).

152. This is especially true in biotechnology, which is very dependent on the promise of patent protection for research and development. See *supra* note 82.

The Model Provision adopts the strongest features of the Omnibus Patent Act and the 21st Century Patent System Improvement Act, modifies sections of both bills that are inadequate, and adopts new sections, where necessary, to better address areas of concern.

As a preliminary matter, this Model Provision will amend 35 U.S.C. § 122(a) by the inclusion of “Except as provided for in subsection (b),” as part of and before the first sentence of the present section 122,¹⁵³ and further amend the title of section 122 to “**Confidential status of applications; limited publication of applications.**”¹⁵⁴ This Model Provision further amends section 122 by adopting a new section 122(b)(1) of title 35 which provides for an eighteen-month application provision similar to that in the 21st Century Patent System Improvement Act.¹⁵⁵ To provide a domestic-applicant-only basis for a pregrant publication exception, this Model Provision combines section 122(b)(1) above with section 122(b)(2) as provided in the Omnibus Patent Act of 1997.¹⁵⁶

153. New section 122 would thus read:

Except as provided in subsection (b), applications for patents shall be kept in confidence by the Patent and Trademark Office and no information concerning applications for patents shall be given without authority of the applicant or owner unless necessary to carry out the provisions of an Act of Congress or in such special circumstances as may be determined by the Commissioner.

See 35 U.S.C. § 122 (1994).

154. There are several other provisions that were proposed in the proposed bills concerning publication of patent application that are not discussed in this Note, as they do not impact on what are seen as the major issues regarding pregrant patent publication. These sections may or may not be included with this Model Provision. For example, the language in section 202 of the proposed bills on the effect of this section on “pre-issuance opposition,” while not essential to this Model Act, also could be added without detracting from the goals of the provision in an additional subsection of section 202. Section 203 provided for priority based on published applications. Section 205 of both bills provided for amending section 102(e) to consider published applications for novelty and nonobviousness purposes. See H.R. 400 §§ 203, 205; S. 507 §§ 203, 205. Section 208 of House Bill 400 was directed to proposed patent term extensions, a provision provided under a separate title of Senate Bill 507, and a subject beyond the scope of this Note. See H.R. 400 § 208; S. 507 § 301. Section 211 provided for reports from the PTO to Congress on the impact of publication. See *id.* § 211. Other sections did not substantially impact the Patent Act under Title II.

155. Section (b)(1) should be a provision that substantially adopts section 202(b)(1) of House Bill 400, providing for publication of applications 18 months after the application is filed. But this provision would exclude House Bill 400 § 202 (b)(1)(C), which prohibits review of a PTO decision on the issue of publication. See *infra* note 164 and accompanying text; *supra* note 146 and accompanying text (discussing why review is necessary).

156. See S. 507 § 202. This section provides:

(b) **Exceptions.** (A) An application that is no longer pending shall not be published. (B) An application that is subject to a secrecy order pursuant to section 181 of this title shall not be published. (C)(i) Where an applicant makes a request upon filing, certifying that the invention disclosed in the application has not and will not be the subject of an application filed in a foreign country, the application shall not be published as provided in paragraph (1). (ii) An applicant may rescind a request made under clause (i) of this subsection. An applicant has a duty to notify the Commissioner within 1 month of filing an application in a foreign country. (iii) Where an

As a second major modification, this Model Provision creates a new section 122(b)(3) which states:

(b)(3) **Scope of Publication.** Applications published under section (b)(2) shall publish no more than that data from such application under section 111(a) that will be made or has been made public in such foreign country. Publication shall be made only if the data is not available, or cannot be made readily available, in the English language¹⁵⁷ through reasonably affordable commercial services. The Commissioner shall determine rates annually for what constitutes reasonably affordable translations. The Patent and Trademark Office shall acquire foreign published patent applications that are not reasonably affordable through commercial services and make such published applications available to the public.¹⁵⁸

Third, this Model Provision further adopts a new section 151(b)(2) which provides:

(b)(2) **Issuance of Patents on Individual Claims.** Where the Commissioner in a notification under section 132 of this title indicates that one or more claims of a published application are allowable, the applicant may request the issuance of a patent incorporating those claims. The applicant may continue prosecution of the remaining claims as provided in chapter 12 of this title. Any subsequently allowed claims may be incorporated into the patent. The Commissioner may establish appropriate fees to cover the costs of incorporating any additional claims into the patent. All fees under this section shall be subject to section 41(h)(1) of this title.¹⁵⁹

applicant rescinds a request under clause (i) of this subsection, or notifies the Commissioner that an application was filed in a foreign country, the application shall be published in accordance with the provisions in section (b)(1).

Id. An alternative provision might rely on a small entity exception as well as domestic only filing, more limited in scope than the small entity exception provided in House Bill 400. *See supra* note 47 (discussing potential problems with the legal definition of small entity).

157. This incorporates the language of House Bill 400 § 202(b)(2)(D)(i). The following language is intended to address potential shortcomings in this section as provided under House Bill 400. *See supra* notes 67, 137 and accompanying text.

158. Notwithstanding this provision, the PTO could further service the public by publishing all published applications, as it recently has decided to do with patents.

159. *See supra* note 47 (discussing small entity status currently used for fee reductions). Both bills merely provided that the Commissioner could establish fees, without reference to small entity fee reductions. *See* S. 507 § 206; H.R. 400 § 206. Such an omission in legislation designed to protect small entities should be corrected. Thus, to the extent that any provision similar to section 206 of either bill is included in a publication provision, it should likewise be modified by this language.

Fourth, this Model Provision, while modifying section 154 by creating provisional rights as set out under section 204(2)(d)(1) of the 21st Century Patent System Act,¹⁶⁰ modifies the bill's proposed section 154(d) by adding a new subsection (c) that states:

If the court shall find the amount of recovery based on the reasonable royalty in subsection (d) to be inadequate or excessive the court may in its discretion enter judgment for such sum as the court shall find to be just according to the circumstances of the case. In exceptional cases the court may also award reasonable attorney's fees and costs to the prevailing party¹⁶¹ or enter a limited injunction against the use of the disclosed invention (i) until a patent issues thereon under section 151 of this title,¹⁶² or (ii) for such a period of time to eliminate the commercial advantage that would be derived from the misappropriation.¹⁶³

Fifth, this Model Provision creates a new section 122(b)(4) that states:

(b)(4) Judicial Review of Publication Determinations. A determination of small entity status or any other determination requiring mandatory publication of an application at eighteen months or five years under this chapter may be petitioned to the Commissioner. An applicant that has a good faith reason may appeal the decision of the Commissioner to the Board of Patent Appeals and Interferences, having once paid the fee for such appeal. No such appeals shall be had after publication, and no liability will extend from such publication. Any discretionary action of the Commissioner under this subsection shall be subject to review under section 10 of the Administrative Procedure Act¹⁶⁴ within the Court of Appeals for the

160. House Bill 400 § 204(2)(d) provided for "Provisional Rights." Subsections (d)(1)(A)(i)-(ii) cover what types of activities constitute infringement, tracking the language of 35 U.S.C. § 271, while subsection (d)(1)(B) provides the requirement that there was actual notice of a published patent application. House Bill 400 also limits the right of recovery to "substantially identical inventions," *see* H.R. 400 § 204(2)(d)(2), to claims brought within six years after the patent issues, *see id.* § 204 2(d)(3), and rights under PCT applications. *See id.* § 204(2)(d)(4).

161. This section is based on similar language provided under 35 U.S.C. § 284.

162. Further injunctive relief would thus be available under 35 U.S.C. § 283.

163. The final clause of the proposed section, which the court may apply if the disclosed invention does not issue as a patent, substantially follows the language of the Uniform Trade Secret Act § 2(b), with the intent that the court may protect the applicant's trade secret rights in cases where equity would so compel.

164. Section 10 of the Administrative Procedure Act provides that a "person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute is entitled to judicial review thereof." *See* 5 U.S.C. § 702 (1994). Section 10 further provides that a claim will not be dismissed merely because it is against the United States. *See id.*

Federal Circuit.¹⁶⁵

Sixth, this Model Provision adopts a new section 202(b)(2)(D)(ii), as set out under section 202 of the 21st Century Patent System Improvement Act,¹⁶⁶ but with the further addition of new subsection (d)(ii)(VII) which provides:

(VII) Applications within a technology that has an average pendency of over five years from the date of application, as determined by the Patent and Trademark Office, shall be given a length of time greater than five years before publication. The appropriate length of time before publication for each type of invention shall be established annually by the Commissioner, but in no event shall such time exceed seven years.¹⁶⁷

These modifications effectively implement the six areas of improvement

Because such review is not explicitly required to be on the record under this proposed section, the court may apply the standards of informal judicial review under 5 U.S.C. § 553. *See* 5 U.S.C. § 553(a) (1994); *id.* § 706(2)(A) (1994) (setting an arbitrary and capricious standard for such review); *see also* *City of West Chicago v. United States Nuclear Regulatory Comm'n*, 701 F.2d 632 (7th Cir. 1983) (discussing “on the record” requirement in detail). Thus, this provision, while giving intellectual property owners protection from administrative abuse, still allows for substantial deference to the PTO.

165. *See* 28 U.S.C. § 1295 (1994) (discussing jurisdiction of Federal Circuit). The Federal Circuit was created, in large part, to give consistency to U.S. patent policy. *See, e.g.*, Savikas, *supra* note 14. Therefore, it is the appropriate venue for a review of pregrant publication issues under this new addition to the Patent Act. Such uniformity would also produce more reliable standards for when determinations should be challenged. The inclusion of this section would result in the omission of language, present in both proposed bills, which explicitly rejected review. *See supra* note 146 and accompanying text.

166. Currently, House Bill 400 § 202 (b)(2)(D)(ii) states:

If the Commissioner determines that a patent application which is filed after the date of the enactment of this paragraph – (I) has been pending more than 5 years from the effective filing date of the application, (II) has not been previously published by the Patent and Trademark Office, (III) is not under any appellate review by the Board of Patent Appeals and Interferences, (IV) is not under interference proceedings in accordance with section 135(a), (V) is not under any secrecy order pursuant to section 181, (VI) is not being diligently pursued by the applicant in accordance with this title, and (VII) is not in abandonment

Because this Model Provision adopted section 202 of S. 507, subsection (V) can be omitted from this new section (b)(2)(D)(ii).

167. The absolute bar of an application at seven years accomplishes two goals: first, it addresses the criticisms of the “diligence” standard as potentially ineffective; and second, it ensures that the application is not either a submarine patent or an invention that is too indefinite or undeveloped to meet the requirements of either section 112 (definite and enabling invention required by application) or section 101 (the requirement of a “useful” invention, which often is determined after the actual invention is discovered). *See, e.g.*, *In re Ziegler*, 992 F.2d 1197, 1203 (Fed. Cir. 1993); *see also, e.g.*, *supra* note 151; *MERGES ET AL.*, *supra* note 22, at 216-28 (discussing the enabling requirements under section 112); *Brenner v. Manson*, 383 U.S. 519, 529-35 (1966) (discussing utility, especially in regards to inventions that may not be fully developed when a patent is sought).

that are most relevant to the needs of the two major groups at odds in the pregrant publication debate. First, the Model Provision, for the sake of fairness and simplicity, adopts the broader exclusion provided in the Omnibus Patent Act.

Second, amended Section 202(b)(2)(D)(i) improves upon the 21st Century Patent System Improvement Act by adding a reasonably affordable requirement to the bill's limit of publication to information not available through commercial services. This improvement satisfies the concern of providing access to English translations of information available in foreign languages within applications filed abroad, while retaining the benefits of such a provision. This section also goes further to protect U.S. inventors by ensuring that access to applications not reasonably affordable through such commercial services is provided by the PTO.

Third, borrowing directly from the Omnibus Patent Act, the Model Provision also allows early issuance of claims that are part of a voluntary pregrant published application to encourage domestic only applicants to voluntarily use the pregrant system. Through this incentive system the Model Provision furthers the goal of harmonization and other benefits of pregrant publication. Due to its voluntary nature, this section also provides more options to applicants and thus will promote use of the patent system.

Fourth, the amendment of the provisional rights sections of the 105th Congress bills provides more options for courts to deal with extreme cases and to deal with cases where a reasonable royalty would be difficult to establish or insufficient for the infringement at hand. The section provides an incentive for inventors to use the patent system over relying on trade secret law or pure secrecy by providing compensation similar to that currently available under trade secret law.

Fifth, the Model Provision also allows for administrative and judicial review of determinations regarding pregrant publication. These changes will also promote the use of the patent system through providing protection for applicants and lessen concerns of small entities regarding pregrant publication.

Finally, the Model Provision follows the 21st Century Patent System Improvement Act's five-year limitation to further eliminate the risk of submarine patents, while allowing for more time before mandatory publication for new technologies with longer pendency, and also establishes a mechanism within the PTO for determining what fields of invention will receive the benefit of more time before publication. This section of the Provision will encourage invention through the patent process by providing greater flexibility in prosecution time for new and sensitive technologies, while still further limiting submarine patent practice. By limiting pendency to

seven years the subsection ensures that the patent is ready for prosecution and not merely a submarine patent, which otherwise does not possess patentable subject matter.

VI. CONCLUSION

Judging from trends in recent years, pregrant publication of patent applications in the United States seems poised to become part of the next set of revisions to U.S. patent law. Pregrant publication proposes different costs and benefits to small entities and large corporations, two distinct and important groups of American inventors. A pregrant publication provision, if properly designed, can meet the needs of these different groups.

In order to meet these requirements and maintain the benefits of our current system, patent applicants who file domestic applications only, or a limited group of small entity applicants, should be excluded from such pregrant publication laws. The 105th Congress provided two bills that can serve as a foundation for such a limited publication provision. The adoption of such a provision is supported by the constitutional policy of promoting science and the useful arts, as well as sound public policy.

The bills presented in the 105th Congress can be further improved by clarifying when foreign filed patent applications are considered reasonably commercially available, providing incentives for voluntary pregrant publication, creating stronger provisional rights to promote use of the patent system, and creating an administrative and judicial mechanism to appeal the findings of the Commissioner relating to pregrant publication. Finally, Congress can improve these bills by balancing the prevention of submarine patents with the recognition that inventors of new technologies may require more than five years to obtain a patent for their inventions.

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